

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. 36246

SERIAL NO. 10/699,974

INFORMATION DISCLOSURE CITATION

BY APPLICANT
(USE SEVERAL SHEETS IF NECESSARY)

Ian Zetterstrom Smith

APPLICANT:

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			U.S. PAT	ENT DOCUME	NTS				
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33	L	0 005 540	11/1979	European					nglish bstract
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U.S. PATENT DOCUMENTS											
Examiner Initial		Document No.	Date	Name		CI	lass	Subclass		Filing Date If Appropriate	
AH	Α	4,360,971	11/1982	Fellmann				1		1	
	В	4,364,435	12/1982	Tuggle et al.							
	С	2001/0034940 A1	11/2001	Marshall et a	1.						
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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of 2

Complete if Known						
Application Number	10/699,974					
Filing Date	11/02/2003					
First Named Inventor	Isaiah O. Oladeji					
Art Unit	2827					
Examiner Name						
Attorney Docket Number	Jessen 12-4-6 (284)					

			U. S. PATENT	DOCUMENTS	
Examiner Initials*	itials* No.1 MM-DD-Y		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant
-10		Number-Kind Code ² (# known)			Figures Appear
34	1	^{US-} 2001/0004550	06/21/2001	Passemard	
	2	^{US-} 2003/0100190	05/29/2003	Cote et al.	
	3	^{US-} 5,635,423	06/03/1997	Huang et al.	
	4	^{US-} 5,821,169	10/13/1998	Nguyen et al.	
	5	^{US-} 6,087,250	07/11/2000	Hyakutake	
	6	^{US-} 6,143,646	11/07/2000	Wetzel	
	7	^{US-} 6,150,073	11/21/2000	Huang	
	8	^{US-} 6,156,643	12/05/2000	Chan et al.	
	9	^{US-} 6,221,759	04/24/2001	Bothra et al.	
	10	^{US-} 6,225,217	05/01/2001	Usami et al.	
	11	^{US-} 6,255,735	07/03/2001	Wang et al.	
	12	^{US-} 6,312,874	11/06/2001	Chan et al.	
	13	^{US-} 6,468,898	10/22/2002	Usami	
1	14	^{US-} 6,479,391	11.12.2992	Morrow et al.	
S M	15	^{US-} 6,507,081	01/14/2003	Smith et al.	
		US-			

		FORE	IGN PATENT DOCL	JMENTS			
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages		
		Country Code ^{3 *} Number ⁴ *Kind Code ⁵ (if known)	MM-DD-YYYY	Applicant or ones becomen	Or Relevant Figures Appear		
S	16	WO 01/99184 A2	12/27/2001	Infineon Technologies		\vdash	
	17	WO 01/43171 A1	06/14/2001	Infineon Technologies			
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known Substitute for form 1449/PTO **Application Number** 10/699,97 INFORMATION DISCLOSURE Filing Date 11/02/2003 STATEMENT BY APPLICANT First Named Inventor Isaiah O. Oladeji **Art Unit** 2827 (Use as many sheets as necessary) **Examiner Name**

Attorney Docket Number

Sheet

2 of

		NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²		
	18	S. WOLF and R.N. TAUBER, Silicon Processing for VLS/Era, Volume 1 - Process Technology, pp. 797-799, Second Edition (2000) Published by Lattice Press, Sunset Beach, CA			
	VINCENT ARNAL et al., A Novel SIO2-Air Gap Low K For Copper Dual Damascene Interconnect, Advanced Metalization Conference 2000, D. Edelstein et al., Warrendale, PA, USA, pp. 71-76				
	20	S. PURUSHOTHAMAN et al., Opportunities and Challenges in Ultra Low k Dielectrics for Interconnect Applications, IEEE, 2001, pp. IEDM 01-529-532			
	21	LYTLE et al., Overcoming Cu/CVD Low-k Integration Challenges in a High Performance Interconnect Technology, IEEE 2001, pp. IEDM 01-611-614.			
	22	ZIELINSKI et al., Damascene Integration of Copper and Ultra-Low-k Xerogel For High Performance Interconnects, 1997, pp. IEDM 97-936-938.			
	23	ARNAL et al., Integration of a 3 Level Cu-SiO2 Air Gap Interconnect for Sub 0.1 micron CMOS Technologies, 2001 IEEE, pp. 298-300.			
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Examiner Date Signature Considered EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not

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FILING DATE: November 3, 2003 GROUP ART UNIT: 3724

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FOREIGN PATENT DOCUMENTS Document No. Date Country Clas Subclass **Translation** s 747,292 04/1956 **Great Britain English Text** M 0 005 540 11/1979 European **English Abstract** N 0 296 789 12/1888 European **English Text** 0 976 313 12/1993 European **English Text**

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